

# SONY

## UMC-S3C

Ultra High Sensitivity 4K Video Camera with 35 mm Full-frame Exmor™ CMOS Sensor

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### Overview

With an ultra-high sensitivity of ISO 409600\* and internal recording, this compact 4K video camera is ideal for a wide range of remote shooting applications in almost total darkness.

The UMC-S3C can capture smooth 4K/29.97P/25P colour video in almost pitch-black conditions, from night-time starlight to poorly lit rooms. It's extremely compact size and on-board recording capability make the camera ideal for remote PoV (Point of View), documentaries, wildlife and live action shooting, plus challenging environments where cabling or space are limited.

With the highest sensitivity in its class with minimum illumination of 0.004 lx, ISO 409600, the camera is ideal for environments where the human eye struggles to see. Extraordinary low-light imaging performance is delivered by the highly sensitive 35 mm full-frame Exmor CMOS sensor, advanced signal processing and interchangeable E-mount FE lenses. This UMC-S3C records crisp, clear 4K/29.97P/25P colour video using the XAVC S format at up to 100 Mbps, as well as very low-noise 12 megapixel colour still images.

The high-speed electronic shutter can capture blur-less colour video of written characters, numbers and human faces. The camera is also equipped with a mechanical shutter for extremely sharp still images, even when there's movement in a scene. A choice of interchangeable E-mount FE lenses (available separately) offers the flexibility to adjust the camera's viewing angle to suit a wide range of applications.

Long-duration video and still images can be recorded to the camera's on-board SD memory card or output to an external recorder or monitor via HDMI. For example: with a 64 GB memory card, users can record up to 125 minutes of 4K footage with standard quality (29.97P/60 Mbps).

Weighing approximately 390g (13.8 oz), the UMC-S3C is ideal for installation in mobile platforms like vehicles and robots. The camera can be controlled via multi terminal\*\*, remote controller or a PC and compatible software.

\* Standard ISO 100–102400, expandable to 50–409600

\*\* Supports Micro USB compatible devices

## Features

- **Crisp, clear 4K video and still images, even in near darkness**

With an ultra-high sensitivity of ISO 409600\*, the UMC-S3C captures crisp, clear 4K/29.97P/25P colour video and low-noise 12 megapixel still images in minimum illumination conditions of 0.004 lx.

The 35 mm full-frame Exmor sensor captures significantly more incident light than conventional cameras, while the image processing extremely enhances the high sensitivity with very low noise. Area-specific noise reduction selectively divides the image into areas based on patterns (such as edges, textures and evenly coloured areas like blue skies) to efficiently reduce noise and improve image quality. Detail reproduction technology helps to accurately depict details with a more natural sense of dimension.

\*Standard ISO 100–102400, expandable to 50–409600

- **Greater shooting flexibility with choice of E-mount FE lenses**

The camera's versatility in a wide range of shooting applications is enhanced by compatibility with a wide range of interchangeable E-mount FE lenses (available separately)\*. These maximise the performance of the 35 mm full-frame sensor, maintaining high resolution across the entire image area from centre to edges.

\*Compatible E mount FE lenses include the SEL35F14Z (35 mm, F1.4), SEL35F28 (35 mm, F2.8), SEL28F20 (28 mm, F2.0), and SEL55F18Z (55 mm, F1.8).

- **Small and light enough to go anywhere**

Ideal for use in space-limited situations, the compact camera measures approximately 104.0 mm x 84.0 mm x 48.0 mm (4 1/8 inches x 3 3/8 inches x 1 15/16 inches). With a light weight of approximately 390 g (13.8 oz), it's ideal for installation in mobile environments such as vehicles and robots.

- **Easy operation even on the move**

4K video or still images can be recorded internally to an SD card, or fed via HDMI to an external recorder or monitor, even when the camera is on the move. The camera's multi terminal can connect to Micro USB-compatible devices, allowing remote control of functions such as zoom and shutter release, Rec Start/Stop, and Zoom using widely-available consumer accessories.

- **High quality internal recording**

The camera can continuously record 4K/29.97P/25P colour video in the XAVC S format at up to 100 Mbps, and 12 megapixel colour still images in JPEG or RAW format at 14 bits to an SD memory card. For example, a 64 GB SD card can record up to 125 minutes of continuous 4K footage with standard quality (29.97P/60 Mbps).

Recorded video files can be reviewed on a wide range of ordinary PC media players compatible with the MP4 format such as Windows Media Player.

## Technical Specifications

General	
● Camera type	Interchangeable lens digital camera
● Lens mount	E-mount
● Lens compatibility	Sony E-mount lenses

Image sensor	
● Type	35mm full frame Exmor CMOS sensor
● Number of pixels (effective)	approx.12.2Megapixels
● Number of pixels (total)	approx.12.4Megapixels
● Image sensor aspect ratio	3:2
● Color filter	R, G, B primary color
● Anti-Dust function	Yes
● Anti-Dust system	Charge protection coating on Optical Filter and ultrasonic vibration mechanism
● Anti-Dust operation (auto)	Power off

Recording system (still image)	
● Recording format	JPEG (DCF Ver. 2.0, Exif Ver.2.3, MPF Baseline compliant), RAW (Sony ARW 2.3 format)
● Image size (pixels) [3:2]	35mm full frame L: 4240 x 2832 (12M), M: 2768 x 1848 (5.1M), S: 2128 x 1416 (3.0M) APS-C L: 2768 x 1848 (5.1M), M: 2128 x 1416 (3.0M), S: 1376 x 920 (1.3M)"
● Image size (pixels) [16:9]	35mm full frame L: 4240 x 2384 (10M), M: 2768 x 1560 (4.3M), S: 2128 x 1200 (2.6M) APS-C L: 2768 x 1560 (4.3M), M: 2128 x 1200 (2.6M), S: 1376 x 776 (1.1M)
● Image quality modes	RAW RAW & JPEG JPEG Extra fine JPEG Fine JPEG Standard
● 14bit RAW	Yes
● Picture Profile	Yes (Off / PP1-PP9) Parameters: Black level, Gamma (Movie, Still, Cine1-4, ITU709, ITU709 [800%], S-Log2, S-Log3), Black Gamma, Knee, Color Mode, Saturation, Color Phase, Color Depth, Detail, Copy, Reset
● Dynamic Range functions	Off, Dynamic Range Optimizer (Auto/Level (1-5)), Auto High Dynamic Range (Auto Exposure Difference, Exposure Difference Level (1-6 EV, 1.0 EV step))
● Color space	sRGB standard (with sYCC gamut)
● Delete	Yes

Recording system (movie)	
● Recording format	XAVC S
● Video compression	XAVC S:MPEG-4 AVC/H.264
● Image size (pixels) [XAVC S]	XAVC S 4K: 3810 x 2160 XAVC S HD: 1920 x 1080
● Picture Profile	Yes (Off / PP1-PP9) Parameters: Black level, Gamma (Movie, Still, Cine1-4, ITU709, ITU709 [800%], S-Log2, S-Log3), Black Gamma, Knee, Color Mode, Saturation, Color Phase, Color Depth, Detail, Copy, Reset

● Color space	xvYCC standard (x.v.Color when connected via HDMI cable) compatible with TRILUMINOS Color
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Movie recording system (XAVC S 4K)	
● 3840 x 2160 (29.97P, 100M)	Approx. 100 Mbps (NTSC mode)
● 3840 x 2160 (25P, 100M)	Approx. 100 Mbps (PAL mode)
● 3840 x 2160 (23.98P, 100M)	Approx. 100 Mbps (NTSC mode)
● 3840 x 2160 (29.97P, 60M)	Approx. 60 Mbps (NTSC mode)
● 3840 x 2160 (25P, 60M)	Approx. 60 Mbps (PAL mode)
● 3840 x 2160 (23.98P, 60M)	Approx. 60 Mbps (NTSC mode)

Movie recording system (XAVC S HD)	
● 1920 x 1080(119.88P, 100M)	Approx.100Mbps (NTSC mode)
● 1920 x 1080(100P, 100M)	Approx.100Mbps (PAL mode)
● 1920 x 1080(119.88P, 60M)	Approx.60Mbps (NTSC mode)
● 1920 x 1080(100P, 60M)	Approx.60Mbps (PAL mode)
● 1920 x 1080(59.94P, 50M)	Approx.50Mbps (NTSC mode)
● 1920 x 1080(50P, 50M)	Approx.50Mbps (PAL mode)
● 1920 x 1080(29.97P, 50M)	Approx.50Mbps (NTSC mode)
● 1920 x 1080(25P, 50M)	Approx.50Mbps (PAL mode)
● 1920 x 1080(23.98P, 50M)	Approx.50Mbps (NTSC mode)

High Frame Rate Recording	
● 1920 x 1080(29.97P, 16M)	Approx.16Mbps (NTSC mode)
● 1920 x 1080(25P, 16M)	Approx.16Mbps (PAL mode)
● 1920 x 1080(23.98P, 12M)	Approx.12Mbps (NTSC mode)

Movie function	
● PAL/NTSC Selector	Yes
● TC/UB	Yes (TC Preset/UB Preset/TC Format/TC Run/TC Make/UB Time Rec)
● Auto Slow Shutter	Yes
● REC Control	Yes
● HDMI Output	3840 x 2160(25P) 1920 x 1080(50P) 1920 x 1080(50i) 1920 x 1080(23.98P) 1920 x 1080(59.94P) 1920 x 1080(59.94i) 3840 x 2160(29.97P) 3840 x 2160(23.98P), YCbCr 4:2:2 8bit / RGB 8bit

Recording system

● Media	SD memory card SDHC memory card (UHS-I compliant) SDXC memory card (UHS-I compliant) microSD memory card microSDHC memory card microSDXC memory card
● Memory card slot	SD memory card
● File system	FAT12, 16, 32, exFAT
● Noise reduction	Long exposure NR: On/Off , available at shutter speeds longer than 1 sec. High ISO NR: Normal/Low/Off
● Multi Frame NR	Auto/ISO 100 to 409600

White balance	
● Modes	Auto / Daylight / Shade / Cloudy / Incandescent / Fluorescent /Flash /Underwater/ Color Temperature & color filter
● AWB micro adjustment	Yes

Focus system	
● Type	Contrast-detection AF
● Focus sensor	"Exmor" CMOS sensor
● Focus point	169 points (contrast-detection AF)
● Sensitivity range	EV-4 to EV20 (ISO100 equivalent with F2.0 lens attached)
● AF mode	AF-S (Single-shot AF), AF-C ( Continuous AF), Manual Focus
● Focus area	Wide (169 points(contrast-detection AF))
● Other features	Focus lock

Exposure control	
● Metering type	1200-zone evaluative metering
● Metering sensor	"Exmor" CMOS sensor
● Metering sensitivity	EV-3 to EV20 (at ISO100 equivalent with F2.0 lens attached)
● Modes	Multi-segment
● Exposure modes	AUTO(iAuto/Superior Auto) Programmed AE (P) Aperture priority (A) Shutter-speed priority (S) Manual (M) Movie / High Frame Rate (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M) )
● Exposure compensation	+/- 5.0EV(1/3 EV, 1/2 EV steps selectable)
● AE Lock	Locked when shutter button is pressed halfway. Available with AE lock button. (On/Off/Auto)
● ISO sensitivity (Recommended Exposure Index)	Still images: ISO 100-102400 (ISO numbers up from ISO 50 to ISO 409600 can be set as expanded ISO range.), AUTO (ISO 100-12800, selectable lower limit and upper limit) Movies: ISO 100-102400 equivalent (ISO numbers up to ISO 409600 can be set as expanded ISO range.), AUTO (ISO 100-12800, selectable lower limit and upper limit)

Other features	
● ISO AUTO Min. SS	Yes
● Clock Function, Setting	Yes
● Area Setting	Yes

Clear Image Zoom	
● Still images	Approx. 2x
● Movies	Approx. 2x

  

Digital zoom	
● Digital zoom (Still images)	35mm full frame: L:approx 4x, M:approx 6.1x, S:approx 8x APS-C: L:approx 4x, M:approx 5.2x, S:approx 8x
● Digital zoom (Movie)	35mm full frame: approx. 4x APS-C: approx. 4x

  

Shutter	
● Type	Electronically-controlled, vertical-traverse, focal-plane type
● Shutter speed	Still images:1/8000 to 30 sec, Bulb, Movies: 1/8000 to 1/4(1/3 steps) up to 1/60 in AUTO mode (up to 1/30 in Auto slow shutter mode)
● Electronic Front Curtain Shutter	Yes(ON/OFF)
● Silent Shooting	Yes(ON/OFF)

  

Drive	
● Drive modes	Single Shooting Continuous shooting
● Speed (approx., max.)*1	Continuous mode: max. 2.5 fps
● No. of frame recordable* (approx.)*1, *2	Continuous mode: JPEG Extra fine L: 109 frames *Continuous mode: JPEG Fine L: 200 frames Continuous mode: JPEG Standard L: 200 frames Continuous mode: RAW: 67 frames Continuous mode: RAW&JPG: 42 frames
● Playback	Delete

  

Interface	
● PC interface	PC remote
● Multi / Micro USB Terminal*3	Yes
● HD output	HDMI (Type-D)
● DC IN Terminal	VDC 12V- 25%+ 10% (9V <sup>~</sup> 13.2V)
● PC Remote	Yes

  

Power	
● Battery for clock	MS621T, Button Type, Manganese-Silicon, Approx.0.23g(without Tabs), 1pcs

  

Power consumption	
● With Viewfinder	19W(including lens)

  

Weight	
● Body only	Approx. 390 gr (without lens)
● Oz Body only	Approx. 13.8 oz (without lens)

  

Dimensions	

● mm (WxHxD) excluding protrusions	Approx. 104mm x 84mm x 48mm
● inch (WxHxD) excluding protrusions	Approx. 4 1/8 x 3 3/8 x 1 15/16 inches
<b>Body material</b>	
● Body material	Magnesium alloy, High rigidity engineering plastic exterior
<b>Operating Temperature</b>	
● Operating temperature	0 - 45 degrees C 32 - 113 degrees F
<b>Supplied Accessory</b>	
●	Body cap (1) Tripod adapter (1) Tripod adapter fixing screw (4) Safety Regulations (1) Operating Instructions - Download site Information (1) Warranty booklet (1-year) (1)
<b>Safety Regulations</b>	
●	UL60950-1, cUL No.60950-1, IEC60950-1 VCCI (Class A), FCC Part15B (Class A), IC ICES-003 (Class A) Emission: EN55032 (Class A), EN61326-1 (Class A) Immunity: EN55024, EN61326-1 Emission: AS/NZS CISPR32(EN55032) (Class A) MSIP EMC KN32 (Class A), KN35 EAC(EMC-TR) CISPR32 (Class A), CISPR24
<b>Notes</b>	
● *1	Varies according to shooting conditions or memory card used
● *2	Continuous drive (Hi) in Drive mode
● *3	Supports Micro USB compatible device.

### Lenses and Lens Adaptors

**SEL2870**

35mm full frame E-mount  
zoom lens FE 28-70mm F3.5-  
5.6 OSS

**SEL35F28Z**

ZEISS Sonnar T\* FE 35mm F2.8  
ZA wide-angle Prime lens

**SEL55F18Z**

ZEISS 35mm full frame E-  
mount standard prime lens  
Sonnar T\* FE 55mm F1.8 ZA

**SEL70200G**

35mm full frame E-mount  
telephoto zoom lens FE 70-  
200mm F4 G OSS